

Claims:

1. An apparatus for preventing erosion of wellbore components comprising:
a wellscreen; and
a coating disposed on the wellscreen.

2. The apparatus of claim 1, wherein the coating is a metal-based coating.

3. The apparatus of claim 2, wherein the metal-base coating includes nickel.

4. The apparatus of claim 2, wherein the metal-base coating includes phosphorous.

5. The apparatus of claim 1, wherein the coating is an organic-based coating.

6. The apparatus of claim 5, wherein the organic-based coating is a phenolic resin.

7. The apparatus of claim 6, wherein a ceramic or cermet is added to the phenolic resin.

8. The apparatus of claim 1, whereby the coated apparatus losses less mass overtime in a wellbore than an apparatus without the coating.

9. The apparatus of claim 8, wherein the mass loss of the apparatus is about 150mg to 350mg when slurry tested for a six-hour period.

10. The apparatus of claim 3, wherein the nickel concentration of the coating is from about 85% to about 95%.

11. The apparatus of claim 4, where in the phosphorous concentration of the coating is from about 5% to about 15%.

- 1 12. A method for fabricating an erosion resistant wellbore component comprising:
2 providing a wellbore component; and
3 treating the wellbore component with erosion resistant material to reduce the amount of
4 mass lost from the wellbore component over time in a wellbore.
- 1 13. The method of claim 12, wherein the erosion resistant material includes a metal-based
2 coating.
- 1 14. The method of claim 13, wherein the metal-based coating includes nickel.
- 1 15. The method of claim 13, wherein the metal-based coating includes phosphorous.
- 1 16. The method of claim 12, wherein the treating step is conducted by plating the wellbore
2 component.
- 1 17. The method of claim 16, wherein plating is electroless plating.
- 1 18. The method of claim 12, wherein the treating step further comprises a post-plating
2 treatment of the wellbore component subsequent to electroless plating.
- 1 19. The method of claim 18, wherein the post-plating treatment includes heating the plated
2 wellbore component at a temperature of about 350°F for a period of about three hours.
- 1 20. The method of claim 12, further comprising the step of inserting the treated wellbore
2 component into a wellbore.
- 1 21. The method of claim 12, whereby the treatment results in a mass loss of about 150 mg to
2 about 350 mg when the component is slurry tested for a six-hour period.
- 1 22. The method of claim 12, wherein the treating results in a wellbore component which,
2 when slurry tested will lose no more than 350 mg of mass over a period of six-hours.

23. The method of claim 14, wherein the nickel concentration is from about 85% to about 95%.

24. The method of claim 15, wherein the phosphorous concentration is from about 5% to about 15%.

25. The method of claim 12, wherein the erosion resistant materials include an organic-based coating.

26. The method of claim 25, wherein the organic-based coating is a phenolic resin.

27. The method of claim 26, wherein ceramics or cermets may be added to the phenolic resin.

28. An apparatus for preventing erosion of wellbore components comprising:
a wellscreen having a screen portion and a perforated inner tube portion; and
a coating disposed on the screen portion.

29. The apparatus of claim 28, wherein the coating includes nickel and phosphorous, and the nickel concentration is from about 85% to about 95%, and the phosphorous concentration is from about 5% to about 15%.

30. The apparatus of claim 28, wherein the coating include an organic-based phenolic resin containing ceramic or cement.

31. The apparatus of claim 28, wherein the coating is disposed on the inner tube portion.